RECEIVED

.... 30 2012

SUFEMBLIND DIVISION

Mr. Jason Gunter Remedial Project Manager U.S. Environmental Protection Agency Region 7 - Superfund Branch 901 North 5th Street Kansas City, KS 66101

Re: The Doe Run Company - Leadwood Mine Tailings Site Monthly Progress Report

Dear Mr. Gunter:

As required by Article VI, Section 50 of the Unilateral Administrative Order (Docket No. CERCLA-07-2006-0272) for the referenced project and on behalf of The Doe Run Company, the progress report for the period February 1, 2012 through February 29, 2012 is enclosed. If you have any questions or comments, please call me at 573-638-5020 or Mark Nations at 573-518-0800.

Sincerely,

TL. Morris, P.E., R.G.

Vice Président

TLM/jms Enclosures

c: Mark Nations - TDRC

Matt Wohl – TDRC (electronic only)

Kathy Rangen – MDNR

Tim Skoglund - Barr Engineering

40383849 Superfund

Leadwood Mine Tailings Site

Leadwood, Missouri

Removal Action - Monthly Progress Report

Period: February 1, 2012 - February 29, 2012

1. Actions Performed or Completed This Period:

a. Work continued on the task of demobilizing earthmoving and ancillary equipment from the site. As of the end of the period, work on this task continued.

2. Data and Results Received This Period:

a. During this period, water samples were collected from downstream of Leadwood Dam and the East Seep and Erosion Area, as well as from upstream and downstream of the confluence of Eaton Creek with Big River. The analytical results for this event are included with this progress report.

3. Scheduled Activities not Completed This Period:

a. None.

4. Planned Activities for Next Period:

- a. Continue vegetation maintenance activities. The use of biosolids will only be continued if a biosolids management plan has been submitted to and approved by EPA.
- b. It is anticipated that EPA will use this site as a soil repository in the future. Preparations for these activities will continue.
- c. Complete monthly water sampling activities as described in the Removal Action Work Plan.
- d. Complete air monitoring activities as described in the Removal Action Work Plan.

5. Changes in Personnel:

a. None.

6. Issues or Problems Arising This Period:

a. None.

7. Resolution of Issues or Problems Arising This Period:

a. None.

End of Monthly Progress Report

Leadwood Mine Tailings Site

Leadwood, Missouri

Removal Action - Monthly Progress Report

Period: February 1, 2012 - February 29, 2012

1. Actions Performed or Completed This Period:

a. Work continued on the task of demobilizing earthmoving and ancillary equipment from the site. As of the end of the period, work on this task continued.

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a. None.

4. Planned Activities for Next Period:

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- b. It is anticipated that EPA will use this site as a soil repository in the future. Preparations for these activities will continue.
- c. Complete monthly water sampling activities as described in the Removal Action Work Plan.
- d. Complete air monitoring activities as described in the Removal Action Work Plan.

5. Changes in Personnel:

a. None.

6. Issues or Problems Arising This Period:

a. None.

7. Resolution of Issues or Problems Arising This Period:

a. None.

End of Monthly Progress Report



March 02, 2012

Allison Olds Barr Engineering Company 1001 Diamond Ridge Suite 1100 Jefferson City, MO 65109

TEL: (573) 638-5007 FAX: (573) 638-5001

RE: Leadwood MTS-25/86-0013 **WorkOrder:** 12021055

Dear Allison Olds:

TEKLAB, INC received 5 samples on 2/24/2012 9:40:00 AM for the analysis presented in the following report.

Samples are analyzed on an as received basis unless otherwise requested and documented. The sample results contained in this report relate only to the requested analytes of interest as directed on the chain of custody. NELAP accredited fields of testing are indicated by the letters NELAP under the Certification column. All tests are performed in the Collinsville, IL laboratory unless otherwise noted in the Case Narrative.

All quality control criteria applicable to the test methods employed for this project have been satisfactorily met and are in accordance with NELAP except where noted. The following report shall not be reproduced, except in full, without the written approval of Teklab, Inc.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Michael L. Austin Project Manager (618)344-1004 ex 16

MAustin@teklabinc.com



Report Contents

http://www.teklabinc.com/

Work Order: 12021055 Client: Barr Engineering Company Client Project: Leadwood MTS-25/86-0013

Report Date: 02-Mar-12

This reporting package includes the following:

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| Case Narrative | 4 |
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| Sample Summary | 10 |
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| Quality Control Results | 13 |
| Receiving Check List | 19 |
| Chain of Custody | Appended |



Definitions

http://www.teklabinc.com/

Client: Barr Engineering Company Work Order: 12021055

Client Project: Leadwood MTS-25/86-0013 Report Date: 02-Mar-12

Abbr Definition

- CCV Continuing calibration verification is a check of a standard to determine the state of calibration of an instrument between recalibration.
- DF Dilution factor is the dilution performed during analysis only and does not take into account any dilutions made during sample preparation. The reported result is final and includes all dilutions factors.
- DNI Did not ignite
- DUP Laboratory duplicate is an aliquot of a sample taken from the same container under laboratory conditions for independent processing and analysis independently of the original aliquot.
- ICV Initial calibration verification is a check of a standard to determine the state of calibration of an instrument before sample analysis is initiated.
- IDPH IL Dept. of Public Health
- LCS Laboratory control sample, spiked with verified known amounts of analytes, is analyzed exactly like a sample to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system. The acceptable recovery range is in the QC Package (provided upon request).
- LCSD Laboratory control sample duplicate is a replicate laboratory control sample that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
 - MB Method blank is a sample of a matrix similar to the batch of associated sample (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences should present at concentrations that impact the analytical results for sample analyses.
- MDL Method detection limit means the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.
- MS Matrix spike is an aliquot of matrix fortified (spiked) with known quantities of specific analytes that is subjected to the entire analytical procedures in order to determine the effect of the matrix on an approved test method's recovery system. The acceptable recovery range is listed in the QC Package (provided upon request).
- MSD Matrix spike duplicate means a replicate matrix spike that is prepared and analyzed in order to determine the precision of the approved test method. The acceptable recovery range is listed in the QC Package (provided upon request).
- MW Molecular weight
- ND Not Detected at the Reporting Limit

NELAP NELAP Accredited

- PQL Practical quantitation limit means the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operation conditions. The acceptable recovery range is listed in the QC Package (provided upon request).
- RL The reporting limit the lowest level that the data is displayed in the final report. The reporting limit may vary according to customer request or sample dilution. The reporting limit may not be less than the MDL.
- RPD Relative percent difference is a calculated difference between two recoveries (ie. MS/MSD). The acceptable recovery limit is listed in the QC Package (provided upon request).
- SPK The spike is a known mass of target analyte added to a blank sample or sub-sample; used to determine recovery deficiency or for other quality control purposes.
- Surr Surrogates are compounds which are similar to the analytes of interest in chemical composition and behavior in the analytical process, but which are not normally found in environmental samples.
- TNTC Too numerous to count (> 200 CFU)

Qualifiers

- # Unknown hydrocarbon
- E Value above quantitation range
- M Manual Integration used to determine area response
- R RPD outside accepted recovery limits
- X Value exceeds Maximum Contaminant Level

- B Analyte detected in associated Method Blank
- H Holding times exceeded
- ND Not Detected at the Reporting Limit
 - S Spike Recovery outside recovery limits



Case Narrative

http://www.teklabinc.com/

Work Order: 12021055

Report Date: 02-Mar-12

Client: Barr Engineering Company
Client Project: Leadwood MTS-25/86-0013

Cooler Receipt Temp: 1.2 °C

Locations and Accreditations

| | Collinsville | | Springfield | | | Kansas City |
|----------|-----------------------------|---------|--------------------|----------|-----------|-------------------------|
| Address | 5445 Horseshoe Lake Road | Address | 3920 Pintail Dr | | Address | 8421 Nieman Road |
| | Collinsville, IL 62234-7425 | | Springfield, IL 62 | 711-9415 | | Lenexa, KS 66214 |
| Phone | (618) 344-1004 | Phone | (217) 698-1004 | | Phone | (913) 541-1998 |
| Fax | (618) 344-1005 | Fax | (217) 698-1005 | | Fax | (913) 541-1998 |
| Email | jhriley@teklabinc.com | Email | kmcclain@teklabii | nc.com | Email | dthompson@teklabinc.com |
| State | I | Dept | Cert# | NELAP | Exp Date | Lab |
| Illinois | . I | EPA | 100226 | NELAP | 1/31/2013 | Collinsville |
| Kansas | s K | XDHE . | E-10374 | NELAP | 1/31/2013 | Collinsville |
| Louisia | ana L | .DEQ | 166493 | NELAP | 6/30/2012 | Collinsville |
| Louisia | ana L | .DEQ | 166578 | NELAP | 6/30/2012 | Springfield |
| Arkans | sas A | LDEQ | 88-0966 | | 3/14/2012 | Collinsville |
| Illinois | П | DPH | 17584 | | 4/30/2012 | Collinsville |
| Kentuc | ky U | JST | 0073 | | 5/26/2012 | Collinsville |
| Missou | uri M | MDNR | 00930 | | 4/13/2013 | Collinsville |
| Oklaho | oma O | DDEQ | 9978 | | 8/31/2012 | Collinsville |
| | | | | | | |



http://www.teklabinc.com/

Client: Barr Engineering Company

Work Order: 12021055

Client Project: Leadwood MTS-25/86-0013

Report Date: 02-Mar-12

Lab ID: 12021055-001

Client Sample ID: LW-001

Matrix: AQUEOUS

Collection Date: 02/23/2012 8:05

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|------------------------------|---------------------|------------|---------|------------|---------|-----------|--|--------------|
| EPA 600 375.2 REV 2.0 1993 | (TOTAL) | | 3-7 | | | | Section Costs | The state of |
| Sulfate | NELAP | 100 | | 207 | mg/L | 10 | 03/01/2012 14:29 | R160637 |
| STANDARD METHOD 18TH | ED. 4500-H B, LABOR | ATORY AN | ALYZED | | | 4343.0 | CE MENT OF THE PERSON OF THE P | 100 |
| Lab pH | NELAP | 1.00 | | 8.06 | | 1 | 02/24/2012 12:22 | R160332 |
| STANDARD METHODS 18TH | I ED. 2340 C | | | - | * /* /* | 1000 | · 工工 · · · | |
| Hardness, as (CaCO3) | NELAP | 5 | | 420 | mg/L | 1 | 02/24/2012 15:35 | R160324 |
| STANDARD METHODS 18TH | H ED. 2540 D | A. W. C. | THE THE | | | 11 | | |
| Total Suspended Solids | NELAP | 6 | | < 6 | mg/L | 1 | 02/27/2012 9:26 | R160430 |
| STANDARD METHODS 18TH | ED. 2540 F | The second | | | | - 449 | | |
| Solids, Settleable | NELAP | 0.1 | | < 0.1 | ml/L | 1 | 02/24/2012 11:51 | R160354 |
| STANDARD METHODS 18TH | ED. 5310 C, ORGANI | C CARBON | 3 | | | | | 1000 |
| Total Organic Carbon (TOC) | NELAP | 1.0 | | 3.1 | mg/L | 1 | 02/24/2012 19:32 | R160383 |
| EPA 600 4.1.1, 200.7R4.4, ME | TALS BY ICP (DISSO | LVED) | | | | 1. 可能是 | | n heightight |
| Cadmium | NELAP | 2.00 | | < 2.00 | μg/L | 1 | 02/25/2012 1:31 | 75468 |
| Zinc | NELAP | 10.0 | | 750 | μg/L | 1 | 02/25/2012 1:31 | 75468 |
| EPA 600 4.1.4, 200.7R4.4, ME | TALS BY ICP (TOTAL | | | | 11.1 | | | |
| Cadmium | NELAP | 2.00 | | < 2.00 | μg/L | 1 | 02/27/2012 13:25 | 75482 |
| Zinc | NELAP | 10.0 | | 1210 | μg/L | . 1 | 02/27/2012 13:25 | 75482 |
| STANDARD METHODS 18TH | ED. 3030 B, 3113 B, | METALS BY | GFAA (E | DISSOLVED) | 1. 还有 | 公理 | が透りません | 一年 智慧反抗 |
| Lead | NELAP | 2.00 | | 3.92 | μg/L | 1 | 02/28/2012 11:57 | 75467 |
| STANDARD METHODS 18TH | ED. 3030 E, 3113 B. | METALS BY | GFAA | | 11.00 | 13042.00 | District Control | |
| Lead | NELAP | 4.00 | X | 6.95 | μg/L | 2 | 02/27/2012 19:26 | 75447 |



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Client: Barr Engineering Company

Work Order: 12021055

Client Project: Leadwood MTS-25/86-0013

Report Date: 02-Mar-12

Lab ID: 12021055-002

Client Sample ID: LW-002

Matrix: AQUEOUS

Collection Date: 02/23/2012 7:15

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|------------------------------|-----------------------|-----------|---------|-------------|---------------------------------------|------------|--|------------|
| EPA 600 375.2 REV 2.0 1993 | (TOTAL) | | | | 1,572 | | 45.000 | |
| Sulfate | NELAP | 375 | | 522 | mg/L | 5 | 02/28/2012 21:10 | R160547 |
| STANDARD METHOD 18TH | ED. 4500-H B, LABOR | ATORY AN | ALYZED | in the | and the said | CHARLES | · · · · · · · · · · · · · · · · · · · | Septe |
| Lab pH | NELAP | 1.00 | | 7.83 | | 1 | 02/24/2012 12:24 | R160332 |
| STANDARD METHODS 18TH | I ED. 2340 C | | | . 1 4 975 - | 1 | HOS BAN | · WAS TRANSPORTED IN | |
| Hardness, as (CaCO3) | NELAP | 5 | | 760 | mg/L | 1 | 02/24/2012 15:35 | R160324 |
| STANDARD METHODS 18TH | ED. 2540 D | | | | | 700 | 160 Let 114 | |
| Total Suspended Solids | NELAP | 6 | | < 6 | mg/L | 1 | 02/27/2012 9:45 | R160430 |
| STANDARD METHODS 18TH | I ED. 2540 F | | | | 7.7.1 | Unit A | | ASSEMBLES. |
| Solids, Settleable | NELAP | 0.1 | | < 0.1 | ml/L | . 1 | 02/24/2012 11:51 | R160354 |
| STANDARD METHODS 18TH | ED. 5310 C, ORGANI | C CARBON | | 1/4/20 | Sales of the sales | 10.1% | A SALES OF THE | A A A |
| Total Organic Carbon (TOC) | NELAP | 1.0 | | 1.9 | mg/L | 1 | 02/24/2012 19:38 | R160383 |
| EPA 600 4.1.1, 200.7R4.4, ME | TALS BY ICP (DISSO | LVED) | ber . | | - PR | or the n | 二 持續 基本 经 | |
| Cadmium | NELAP | 2.00 | | 2.90 | µg/L | 1 | 02/25/2012 1:37 | 75468 |
| Zinc | NELAP | 10.0 | | 5180 | μg/L | 1 | 02/25/2012 1:37 | 75468 |
| EPA 600 4.1.4, 200.7R4.4, ME | TALS BY ICP (TOTAL |) | | | | The second | Hardy Const | |
| Cadmium | NELAP | 2.00 | | 4.20 | µg/L | 1 | 02/27/2012 13:30 | 75482 |
| Zinc | NELAP | 10.0 | | 5680 | µg/L | 1 | 02/27/2012 13:30 | 75482 |
| STANDARD METHODS 18TH | ED. 3030 B, 3113 B, | METALS BY | GFAA (I | DISSOLVED) | Salata Carl | PROTEST! | 上海(1) 44 44 44 45 | PARTY I |
| Lead | NELAP | 2.00 | X | 15.1 | µg/L | 1 | 02/28/2012 12:01 | 75467 |
| STANDARD METHODS 18TH | ED. 3030 E, 3113 B, I | METALS BY | GFAA | 12 80.00 | ····································· | la Water | A STATE OF THE STA | · 香油 |
| Lead | NELAP | 4.00 | X | 41.0 | µg/L | 2 | 02/27/2012 19:36 | 75447 |



http://www.teklabinc.com/

Client: Barr Engineering Company

Work Order: 12021055

Client Project: Leadwood MTS-25/86-0013

Report Date: 02-Mar-12

Lab ID: 12021055-003

Client Sample ID: LW-Dup

Matrix: AQUEOUS

Collection Date: 02/23/2012 10:25

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|------------------------------|-----------------------|---|--|--|-------------|--------------------|----------------------|---------------------------------------|
| EPA 600 375.2 REV 2.0 1993 | (TOTAL) | 617 32 | | | | | | 100 |
| Sulfate | NELAP | 20 | | 25 | mg/L | 2 | 03/01/2012 11:53 | R160637 |
| STANDARD METHOD 18TH | ED. 4500-H B, LABOR | ATORY AN | ALYZED | 7 (18 | 25/4/3/4 | 9865 | | • 种膜病 |
| Lab pH | NELAP | 1.00 | | 8.13 | | 1 | 02/24/2012 12:26 | R160332 |
| STANDARD METHODS 18TH | I ED. 2340 C | 2. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. | 54 | | 1.00 | | | ""是一种 |
| Hardness, as (CaCO3) | NELAP | 5 | | 200 | mg/L | 1 | 02/24/2012 15:35 | R160324 |
| STANDARD METHODS 18TH | I ED. 2540 D | | | | | | Pro C. | 力的關係。 |
| Total Suspended Solids | NELAP | 6 | | < 6 | mg/L | 1 | 02/27/2012 9:45 | R160430 |
| STANDARD METHODS 18TH | ED. 5310 C, ORGAN | C CARBON | THE STATE OF THE S | Bar de marie de la companya de la co | | 1967 | D-17 | |
| Total Organic Carbon (TOC) | NELAP | 1.0 | | 1.6 | mg/L | 1 | 02/24/2012 19:44 | R160383 |
| EPA 600 4.1.1, 200.7R4.4, ME | ETALS BY ICP (DISSO | LVED) | 194 | 14 | 《种类》 | | | 计型系统 |
| Cadmium | NELAP | 2.00 | | < 2.00 | μg/L | 1 | 02/25/2012 1:42 | 75468 |
| Zinc | NELAP | 10.0 | | < 10.0 | μg/L | 1 | 02/25/2012 1:42 | 75468 |
| EPA 600 4.1.4, 200.7R4.4, ME | TALS BY ICP (TOTAL | | ************************************** | | 三. 网络罗马 | 1.00k | | 中央部门 |
| Cadmium | NELAP | 2.00 | | < 2.00 | μg/L | 1 | 02/27/2012 13:49 | 75482 |
| Zinc | NELAP | 10.0 | | 11.1 | μg/L | 1 | 02/27/2012 13:49 | 75482 |
| STANDARD METHODS 18TH | ED. 3030 B, 3113 B, | METALS BY | GFAA (E | ISSOLVED) | 全国国家等 | 经济200 个1000 | | · · · · · · · · · · · · · · · · · · · |
| Lead | NELAP | 2.00 | | < 2.00 | μg/L | 1 | 02/27/2012 18:31 | 75467 |
| STANDARD METHODS 18TH | ED. 3030 E, 3113 B, I | METALS BY | GFAA | | C. P. STATE | | | HE TO SE |
| Lead | NELAP | 2.00 | | < 2.00 | µg/L | 1 | 02/27/2012 16:47 | 75447 |



http://www.teklabinc.com/

Client: Barr Engineering Company

Work Order: 12021055

Client Project: Leadwood MTS-25/86-0013

Report Date: 02-Mar-12

Lab ID: 12021055-004

Client Sample ID: LW-DS

Matrix: AQUEOUS Collect

Collection Date: 02/23/2012 10:15

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|------------------------------|-----------------------|-----------|---------|------------|-------------|--|--------------------|---|
| EPA 600 375.2 REV 2.0 1993 | (TOTAL) | - Trayer- | er, pr | | 的漢學性學 | 3.75 | 1-1-3-7-6 | 0.1000000000000000000000000000000000000 |
| Sulfate | NELAP | 20 | | 26 | mg/L | 2 | 02/29/2012 18:32 | R160599 |
| STANDARD METHOD 18TH | ED. 4500-H B, LABOR | ATORY AN | ALYZED | 计 论 | 到1000000 | | Water was | (大) 精动和 |
| Lab pH | NELAP | 1.00 | | 8.10 | | 1 | 02/24/2012 12:28 | R160332 |
| STANDARD METHODS 18TH | ED. 2340 C | | | 1150 | | | | V-SEW |
| Hardness, as (CaCO3) | NELAP | 5 | | 200 | mg/L | 1 | 02/24/2012 15:35 | R160324 |
| STANDARD METHODS 18TH | I ED. 2540 D | | | 电 诗 | vi pinde | | | 1.11 |
| Total Suspended Solids | NELAP | 6 | | < 6 | mg/L | 1 | 02/27/2012 9:45 | R160430 |
| STANDARD METHODS 18TH | ED. 5310 C, ORGANI | C CARBON | | 1 | 70 PAST 11 | Sir William | | |
| Total Organic Carbon (TOC) | NELAP | 1.0 | | 2.0 | mg/L | 1 | 02/24/2012 19:51 | R160383 |
| EPA 600 4.1.1, 200.7R4.4, ME | TALS BY ICP (DISSO | LVED) | | | STATE OF | 15 | | 在中国 |
| Cadmium | NELAP | 2.00 | | < 2.00 | μg/L | 1 | 02/25/2012 2:09 | 75468 |
| Zinc | NELAP | 10.0 | | 10.1 | μg/L | 1 | 02/25/2012 2:09 | 75468 |
| EPA 600 4.1.4, 200.7R4.4, ME | TALS BY ICP (TOTAL |) | 1 2 1 2 | 1000 | | | | |
| Cadmium | NELAP | 2.00 | | < 2.00 | µg/L | 1 | 02/27/2012 13:55 | 75482 |
| Zinc | NELAP | 10.0 | | 11.3 | μg/L | 1 | 02/27/2012 13:55 | 75482 |
| STANDARD METHODS 18TH | ED. 3030 B, 3113 B, I | METALS BY | GFAA (E | ISSOLVED) | THE RESERVE | THE RESERVE OF THE PERSON OF T | No design with the | |
| Lead | NELAP | 2.00 | | < 2.00 | µg/L | 1 | 02/27/2012 18:35 | 75467 |
| STANDARD METHODS 18TH | ED. 3030 E, 3113 B, M | METALS BY | GFAA | 1000年 | | | grant many | V. M. S. |
| Lead | NELAP | 2.00 | | < 2.00 | µg/L | 1 | 02/27/2012 16:51 | 75447 |



http://www.teklabinc.com/

Client: Barr Engineering Company

Work Order: 12021055

Client Project: Leadwood MTS-25/86-0013

Report Date: 02-Mar-12

Lab ID: 12021055-005

Client Sample ID: LW-US

Matrix: AQUEOUS

Collection Date: 02/23/2012 9:30

| Analyses | Certification | RL | Qual | Result | Units | DF | Date Analyzed | Batch |
|------------------------------|-------------------------|-----------|---------|-----------|---------|------------|--|-------------|
| EPA 600 375.2 REV 2.0 1993 | (TOTAL) | - | | | 1. 1. | 4.7 | | |
| Sulfate | NELAP | 20 | | 22 | mg/L | 2 | 02/29/2012 18:37 | R160599 |
| STANDARD METHOD 18TH | ED. 4500-H B, LABOR | ATORY AN | ALYZED | 13.8 | 11. 多种的 | A A Se | | |
| Lab pH | NELAP | 1.00 | | 8.10 | | . 1 | 02/24/2012 12:30 | R160332 |
| STANDARD METHODS 18TH | I ED. 2340 C | | | | | for the | mai praspar | 100 |
| Hardness, as (CaCO3) | NELAP | 5 | | 180 | mg/L | 1 | 02/24/2012 15:35 | R160324 |
| STANDARD METHODS 18TH | I ED. 2540 D | | | | | P. 4. 1 | 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1 | |
| Total Suspended Solids | NELAP | 6 | | < 6 | mg/L | 1 | 02/27/2012 9:45 | R160430 |
| STANDARD METHODS 18TH | ED. 5310 C, ORGANI | CCARBON | | 2545 | | At w | | 1,73 |
| Total Organic Carbon (TOC) | NELAP | 1.0 | | 1.6 | mg/L | 1 | 02/24/2012 19:57 | R160383 |
| EPA 600 4.1.1, 200.7R4.4, ME | ETALS BY ICP (DISSO | LVED) | | 9.52 | | | 4 44 1 4 6 2 3 4 | |
| Cadmium | NELAP | 2.00 | | < 2.00 | μg/L | 1 | 02/25/2012 2:14 | 75468 |
| Zinc | NELAP | 10.0 | | < 10.0 | μg/L | 1 | 02/25/2012 2:14 | 75468 |
| EPA 600 4.1.4, 200.7R4.4, ME | TALS BY ICP (TOTAL | 1 | | 2.96 | | The se | | 2 |
| Cadmium | NELAP | 2.00 | | < 2.00 | μg/L | 1 | 02/27/2012 14:00 | 75482 |
| Zinc | NELAP | 10.0 | | < 10.0 | μg/L | 1 | 02/27/2012 14:00 | 75482 |
| STANDARD METHODS 18TH | I ED. 3030 B, 3113 B, M | METALS BY | GFAA (D | ISSOLVED) | 市建設。 | 表示的 | 1. 不适应的 | 7 B. Waller |
| Lead | NELAP | 2.00 | | < 2.00 | μg/L | 1 | 02/27/2012 18:38 | 75467 |
| STANDARD METHODS 18TH | I ED. 3030 E, 3113 B, N | IETALS BY | GFAA | | | | | |
| Lead | NELAP | 2.00 | | < 2.00 | μg/L | 1 | 02/28/2012 10:49 | 75447 |



Sample Summary

http://www.teklabinc.com/

Client: Barr Engineering Company

Client Project: Leadwood MTS-25/86-0013

Work Order: 12021055 Report Date: 02-Mar-12

| Lab Sample ID | Client Sample ID | Matrix | Fractions | Collection Date |
|---------------|------------------|---------|-----------|------------------|
| 12021055-001 | LW-001 | Aqueous | 5 | 02/23/2012 8:05 |
| 12021055-002 | LW-002 | Aqueous | 5 | 02/23/2012 7:15 |
| 12021055-003 | LW-Dup | Aqueous | 5 | 02/23/2012 10:25 |
| 12021055-004 | LW-DS | Aqueous | 5 | 02/23/2012 10:15 |
| 12021055-005 | LW-US | Aqueous | 5 | 02/23/2012 9:30 |
| | | • | | |



Dates Report

http://www.teklabinc.com/

Client: Barr Engineering Company Work Order: 12021055 Client Project: Leadwood MTS-25/86-0013

Report Date: 02-Mar-12

| Sample ID | Client Sample ID Test Name | Collection Date | | Received Date Prep Date/Time | Analysis Date/Time |
|---------------|---|----------------------------|--------|--|--|
| 12021055-001A | LW-001 | 02/23/2012 8:05 | | 2/24/2012 9:40:00 AM | |
| | Standard Methods 18th Ed. 2540 F | | | A STATE OF THE STA | 02/24/2012 11:51 |
| 12021055-001B | LW-001 | 02/23/2012 8:05 | | 2/24/2012 9:40:00 AM | |
| | EPA 600 375.2 Rev 2.0 1993 (Total) | | | | 03/01/2012 14:29 |
| | Standard Method 18th Ed. 4500-H B, Laboratory Analys | zed | | | 02/24/2012 12:22 |
| | Standard Methods 18th Ed. 2340 C | | | | 02/24/2012 15:35 |
| | Standard Methods 18th Ed. 2540 D | | | | 02/27/2012 9:26 |
| 12021055-001C | LW-001 | 02/23/2012 8:05 | | 2/24/2012 9:40:00 AM | 7 (A) |
| | EPA 600 4.1.4, 200.7R4.4, Metals by ICP (Total) | | | 02/24/2012 17:41 | 02/27/2012 13:25 |
| | Standard Methods 18th Ed. 3030 E, 3113 B, Metals by C | GFAA | | 02/24/2012 11:04 | 02/27/2012 19:26 |
| 12021055-001D | LW-001 | 02/23/2012 8:05 | | 2/24/2012 9:40:00 AM | |
| | EPA 600 4.1.1, 200.7R4.4, Metals by ICP (Dissolved) | | | 02/24/2012 13:24 | 02/25/2012 1:31 |
| | Standard Methods 18th Ed. 3030 B, 3113 B, Metals by 0 | GFAA (Dissolved) | | 02/24/2012 13:23 | 02/28/2012 11:57 |
| 12021055-001E | LW-001 | 02/23/2012 8:05 | | 2/24/2012 9:40:00 AM | The state of the s |
| 3.00 | Standard Methods 18th Ed. 5310 C, Organic Carbon | | | | 02/24/2012 19:32 |
| 12021055-002A | LW-002 | 02/23/2012 7:15 | - Carl | 2/24/2012 9:40:00 AM | |
| | Standard Methods 18th Ed. 2540 F | the section of the section | | The state of the s | 02/24/2012 11:51 |
| 12021055-002B | LW-002 | 02/23/2012 7:15 | | 2/24/2012 9:40:00 AM | |
| | EPA 600 375.2 Rev 2.0 1993 (Total) | | | y nyketo y 11 m. Me Zhilith min | 02/28/2012 21:10 |
| | Standard Method 18th Ed. 4500-H B, Laboratory Analyz | zed | | | 02/24/2012 12:24 |
| | Standard Methods 18th Ed. 2340 C | | | | 02/24/2012 15:35 |
| | Standard Methods 18th Ed. 2540 D | | | | 02/27/2012 9:45 |
| 12021055-002C | LW-002 | 02/23/2012 7:15 | 43 F. | 2/24/2012 9:40:00 AM | |
| | EPA 600 4.1.4, 200.7R4.4, Metals by ICP (Total) | | | 02/24/2012 17:41 | 02/27/2012 13:30 |
| | Standard Methods 18th Ed. 3030 E, 3113 B, Metals by C | FAA | | 02/24/2012 11:04 | 02/27/2012 19:36 |
| 12021055-002D | LW-002 | 02/23/2012 7:15 | 1.11 | 2/24/2012 9:40:00 AM | |
| | EPA 600 4.1.1, 200.7R4.4, Metals by ICP (Dissolved) | | | 02/24/2012 13:24 | 02/25/2012 1:37 |
| | Standard Methods 18th Ed. 3030 B, 3113 B, Metals by C | GFAA (Dissolved) | | 02/24/2012 13:23 | 02/28/2012 12:01 |
| 12021055-002E | LW-002 | 02/23/2012 7:15 | | 2/24/2012 9:40:00 AM | |
| | Standard Methods 18th Ed. 5310 C, Organic Carbon | | | | 02/24/2012 19:38 |
| 12021055-003A | LW-Dup | 02/23/2012 10:25 | 1411 | 2/24/2012 9:40:00 AM | N. 10 10 10 10 10 10 10 10 10 10 10 10 10 |
| | Standard Method 18th Ed. 4500-H B, Laboratory Analyz | ed | | | 02/24/2012 12:26 |
| | Standard Methods 18th Ed. 2540 D | | | | 02/27/2012 9:45 |
| 12021055-003B | LW-Dup | 02/23/2012 10:25 | | 2/24/2012 9:40:00 AM | |
| | EPA 600 375.2 Rev 2.0 1993 (Total) | | | | 03/01/2012 11:53 |
| | Standard Methods 18th Ed. 2340 C | | | | 02/24/2012 15:35 |



Dates Report

http://www.teklabinc.com/

Client: Barr Engineering Company

Work Order: 12021055

Client Project: Leadwood MTS-25/86-0013 Report Date: 02-Mar-12

| Sample ID | Client Sample ID Test Name | Collection Date | Received Date Prep Date/Time | Analysis Date/Time |
|---------------|---|------------------|--|--|
| 12021055-003C | LW-Dup | 02/23/2012 10:25 | 2/24/2012 9:40:00 AM | |
| | EPA 600 4.1.4, 200.7R4.4, Metals by ICP (Total) | | 02/24/2012 17:41 | 02/27/2012 13:49 |
| | Standard Methods 18th Ed. 3030 E, 3113 B, Metals by GF. | AA | 02/24/2012 11:04 | 02/27/2012 16:47 |
| 12021055-003D | LW-Dup | 02/23/2012 10:25 | 2/24/2012 9:40:00 AM | |
| | EPA 600 4.1.1, 200.7R4.4, Metals by ICP (Dissolved) | | 02/24/2012 13:24 | 02/25/2012 1:42 |
| | Standard Methods 18th Ed. 3030 B, 3113 B, Metals by GF. | AA (Dissolved) | 02/24/2012 13:23 | 02/27/2012 18:31 |
| 12021055-003E | LW-Dup Standard Methods 18th Ed. 5310 C, Organic Carbon | 02/23/2012 10:25 | 2/24/2012 9:40:00 AM | 02/24/2012 19:44 |
| 12021055-004A | LW-DS | 02/23/2012 10:15 | 2/24/2012 9:40:00 AM | 1 9 76 |
| | Standard Method 18th Ed. 4500-H B, Laboratory Analyzed | 1 | 10 PER 10 PE | 02/24/2012 12:28 |
| | Standard Methods 18th Ed. 2540 D | | | 02/27/2012 9:45 |
| 12021055-004B | LW-DS | 02/23/2012 10:15 | 2/24/2012 9:40:00 AM | |
| | EPA 600 375.2 Rev 2.0 1993 (Total) | | A SECTION OF THE SECT | 02/29/2012 18:32 |
| | Standard Methods 18th Ed. 2340 C | | | 02/24/2012 15:35 |
| 12021055-004C | LW-DS | 02/23/2012 10:15 | 2/24/2012 9:40:00 AM | A STATE OF THE STA |
| | EPA 600 4.1.4, 200.7R4.4, Metals by ICP (Total) | | 02/24/2012 17:41 | 02/27/2012 13:55 |
| | Standard Methods 18th Ed. 3030 E, 3113 B, Metals by GFA | AA | 02/24/2012 11:04 | 02/27/2012 16:51 |
| 12021055-004D | LW-DS | 02/23/2012 10:15 | 2/24/2012 9:40:00 AM | THE STATE OF THE S |
| | EPA 600 4.1.1, 200.7R4.4, Metals by ICP (Dissolved) | | 02/24/2012 13:24 | 02/25/2012 2:09 |
| | Standard Methods 18th Ed. 3030 B, 3113 B, Metals by GFA | AA (Dissolved) | 02/24/2012 13:23 | 02/27/2012 18:35 |
| 12021055-004E | LW-DS | 02/23/2012 10:15 | 2/24/2012 9:40:00 AM | |
| | Standard Methods 18th Ed. 5310 C, Organic Carbon | | PARTY STATE OF THE PARTY OF THE | 02/24/2012 19:51 |
| 12021055-005A | LW-US | 02/23/2012 9:30 | 2/24/2012 9:40:00 AM | |
| | Standard Method 18th Ed. 4500-H B, Laboratory Analyzed | 236. | | 02/24/2012 12:30 |
| | Standard Methods 18th Ed. 2540 D | | | 02/27/2012 9:45 |
| 12021055-005B | LW-US | 02/23/2012 9:30 | 2/24/2012 9:40:00 AM | |
| | EPA 600 375.2 Rev 2.0 1993 (Total) | | | 02/29/2012 18:37 |
| | Standard Methods 18th Ed. 2340 C | | | 02/24/2012 15:35 |
| 12021055-005C | LW-US | 02/23/2012 9:30 | 2/24/2012 9:40:00 AM | |
| | EPA 600 4.1.4, 200.7R4.4, Metals by ICP (Total) | | 02/24/2012 17:41 | 02/27/2012 14:00 |
| | Standard Methods 18th Ed. 3030 E, 3113 B, Metals by GFA | ıA. | 02/24/2012 11:04 | 02/28/2012 10:49 |
| 12021055-005D | LW-US | 02/23/2012 9:30 | 2/24/2012 9:40:00 AM | |
| | EPA 600 4.1.1, 200.7R4.4, Metals by ICP (Dissolved) | | 02/24/2012 13:24 | 02/25/2012 2:14 |
| | Standard Methods 18th Ed. 3030 B, 3113 B, Metals by GFA | AA (Dissolved) | 02/24/2012 13:23 | 02/27/2012 18:38 |
| 12021055-005E | LW-US | 02/23/2012 9:30 | 2/24/2012 9:40:00 AM | |
| | Standard Methods 18th Ed. 5310 C, Organic Carbon | | | 02/24/2012 19:57 |



Sulfate

Batch R160637 SampID: ICV/LCS

Client: Barr Engineering Company

Quality Control Results

http://www.teklabinc.com/

Work Order: 12021055

Client Project: Leadwood MTS-25/86-0013 Report Date: 02-Mar-12 EPA 600 375.2 REV 2.0 1993 (TOTAL) SampType: MBLK Units mg/L Batch R160547 SampID: MBLK Date Analyzed Result Spike SPK Ref Val %REC Low Limit High Limit Analyses Qual Sulfate < 75 02/29/2012 SampType: MBLK Batch R160547 Units mg/L SampID: ICB/MBLK Date Analyzed Result Spike SPK Ref Val %REC Low Limit High Limit Analyses RLOual Sulfate 02/28/2012 < 75 Batch R160547 Units mg/L SampType: LCS SampID: LCS Date Analyzed Result Spike SPK Ref Val %REC Low Limit High Limit Analyses RL**Qual** 02/29/2012 Sulfate 75 139 150 92.7 90 110 Batch R160547 SampType: LCS Units mg/L SampID: LCS Date Analyzed Analyses Low Limit High Limit Result Spike SPK Ref Val %REC RL**Oual** 02/28/2012 Sulfate 75 139 150 92.9 90 110 Units mg/L Batch R160599 SampType: MBLK SampID: ICB/MBLK Date Analyzed Result Spike SPK Ref Val %REC Low Limit High Limit Analyses RLQual 02/29/2012 Sulfate 10 < 10 Batch R160599 Units mg/L SampType: LCS SampID: ICV/LCS Date Analyzed Result Spike SPK Ref Val %REC Low Limit High Limit Analyses Qual 02/29/2012 Sulfate 20 20 101.3 90 110 Batch R160637 SampType: MBLK Units mg/L SampID: ICB/MBLK Date Analyzed Result Spike SPK Ref Val %REC Low Limit High Limit Analyses Qual

| Analyses | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Analyzed |
|--------------------------|-----|------------|--------|-------|-------------|-------|-----------|------------|------------------|
| Sulfate | 10 | | 20 | 20 | , 0 | 98.0 | 90 | 110 | 03/01/2012 |
| Batch R160637 SampType: | MS | Units mg/L | | | | | · | | |
| SampID: 12021055-001B MS | | | | | | | | | Date Analyzed |
| Analyses | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Arialyzeu |
| Sulfate | 100 | | 319 | 100 | 206.8 | 112.2 | 85 | 115 | 03/01/2012 |

< 10

10

Units mg/L

SampType: LCS

03/01/2012

Date Analyzed



http://www.teklabinc.com/

Client: Barr Engineering Company Work Order: 12021055

Client Project: Leadwood MTS-25/86-0013 Report Date: 02-Mar-12

| EPA 600 375.2 REV 2.0 1993 (| TOTAL |) | | | | | half a Marie Co. | | Maria de la | |
|---|-----------|---------|------------|---------|-------------|----------------|--|-------------|-----------------|------------------|
| Batch R160637 SampType: | MSD | | Units mg/L | | | and the second | | RPI | D Limit 10 | |
| SampID: 12021055-001B MSD | | | | | | | | | | Date |
| Analyses | garden in | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref | Val %RPD | Analyzed |
| Sulfate | | 100 | | 314 | 100 | 206.8 | 106.9 | 319.1 | 1.69 | 03/01/201 |
| STANDARD METHOD 18TH EI | D. 4500 | -H B, L | ABORATORY | ANALYZE | D | A | protection | nd rubertic | -simplifies and | The Straight Ab |
| Batch R160332 SampType: SampID: LCS | LCS | | Units | | | | | | | Date |
| Analyses | | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Analyzed |
| Lab pH | | 1.00 | | 6.98 | 7.00 | 0 | 99.7 | 99.1 | 100.8 | 02/24/201 |
| Batch R160332 SampType: SampID: 12021055-001BDUP | DUP | | Units | | | 6 | | RPD | Limit 10 | Date |
| Analyses | | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref | Val %RPD | Analyzed |
| Lab pH | | 1.00 | | 8.09 | | | | 8.060 | 0.37 | 02/24/2012 |
| Batch R160332 SampType: SampID: 12021055-002BDUP | DUP | OK, | Units | | | | | RPD | Limit 10 | |
| | | | | | | CDV Def Vel | W DEC | DDD D-41 | /al 0/ DDD | Date Analyzed |
| Analyses Lab pH | | 1.00 | Qual | 7.85 | Spike | SPK Ref Val | 70REC | 7.830 | Val %RPD 0.26 | 02/24/2012 |
| | | | | | | | | | | |
| Batch R160332 SampType: SampID: 12021055-003ADUP | DUP | | Units | | · · · · · · | | * | RPD | Limit 10 | Date |
| Analyses | | RL | Qual | Result | Spike | SPK Ref Val | %REC | RPD Ref | /al %RPD | Analyzed |
| Lab pH | | 1.00 | | 8.12 | | | | 8.130 | 0.12 | 02/24/2012 |
| Batch R160332 SampType: SampID: 12021055-004ADUP | DUP | | Units | | | | | RPD | Limit 10 | Date |
| Analyses | | RL | Qual | Regult | Snike | SPK Ref Val | %REC | RPD Ref \ | /al %RPD | Analyzed |
| Lab pH | | 1.00 | Quai | 8.09 | DPIKU | | | 8.100 | 0.12 | 02/24/2012 |
| Dutten | DUP | | Units | | - | | The state of the s | RPD | Limit 10 | 1 14 4 |
| SampID: 12021055-005ADUP | | | | | | | | | | Date |
| Analyses | | RL | Qual | | Spike | SPK Ref Val | %REC | | /al %RPD | Analyzed |
| Lab pH | | 1.00 | | 8.10 | | | | 8.100 | 0.00 | 02/24/2012 |
| STANDARD METHODS 18TH E | D. 234 | 0 C | 4:32 | | · # 7. | | | es de la | | A& (44) |
| Batch R160324 SampType: SampID: MB-R160324 | MBLK | | Units mg/L | | | | | | | Date Analyzed |
| Analyses | | RL | Qual | | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Analyzed |
| Hardness, as (CaCO3) | | 5 | | < 5 | | | | | | 02/24/2012 |



http://www.teklabinc.com/

| Client: Barr Enginee | ering Company | • | | | | Work Order: 120210 |)55 | | | |
|--|---------------|------------|--------------------------------------|-----------------|------------|--|------------------|--|--|--|
| Client Project: Leadwood M | TS-25/86-001 | 3 | | | | Report Date: 02-Mar-12 | | | | |
| STANDARD METHODS 18TH | ED. 2340 C | | | | | | | | | |
| Batch R160324 SampType: SampID: LCS-R160324 | LCS | Units mg/L | | | | | Date | | | |
| Analyses | RL | Qual | Result Spike | SPK Ref Val | %REC | Low Limit High Limit | Analyzed | | | |
| Hardness, as (CaCO3) | 5 | | 1000 1000 | 0 | 100.0 | 90 110 | 02/24/2012 | | | |
| Batch R160324 SampType: SampID: 12021055-001BMS | MS | Units mg/L | | | | | Date | | | |
| Analyses | RL | Qual | Result Spike | | | Low Limit High Limit | Analyzed | | | |
| Hardness, as (CaCO3) | 5 | | 840 400 | 420.0 | 105.0 | 85 115 | 02/24/2012 | | | |
| Batch R160324 SampType: SampID: 12021055-001BMSD | MSD | Units mg/L | | | | RPD Limit 10 | Date | | | |
| Analyses | RL | Qual | Result Spike | SPK Ref Val | %REC | RPD Ref Val %RPD | Analyzed | | | |
| Hardness, as (CaCO3) | 5 | | 820 400 | 420.0 | 100.0 | 840.0 2.41 | 02/24/2012 | | | |
| STANDARD METHODS 18TH I | ED. 2540 D | | | Charles and | | | | | | |
| Batch R160430 SampType: SampID: MBLK | MBLK | Units mg/L | | | | | Date | | | |
| Analyses | RL | Qual | Result Spike | SPK Ref Val | %REC | Low Limit High Limit | Analyzed | | | |
| Total Suspended Solids | 6 | | < 6 | | | | 02/27/2012 | | | |
| Batch R160430 SampType: SampID: LCS | LCS | Units mg/L | | | | | Date | | | |
| Analyses | RL | Qual | Result Spike | SPK Ref Val | %REC | Low Limit High Limit | Analyzed | | | |
| Total Suspended Solids | 6 | | 92 100 | 0 | 92.0 | 85 115 | 02/27/2012 | | | |
| Total Suspended Solids | 6 | | 94 100 | 0 | 94.0 | 85 115 | 02/27/2012 | | | |
| Total Suspended Solids | 6 | | 95 100 | 0 | 95.0 | 85 115 | 02/27/2012 | | | |
| Batch R160430 SampType: SampID: 12021055-003A DUP | DUP | Units mg/L | | | | RPD Limit 15 | D-4- | | | |
| Analyses | RL | Qual | Result Spike | SPK Ref Val | %RFC | RPD Ref Val %RPD | Date Analyzed | | | |
| Total Suspended Solids | 6 | Quai | < 6 | Or it it or var | 70.120 | 0 0.00 | 02/27/2012 | | | |
| STANDARD METHODS 18TH E | D 5310 C OR | GANIC CARE | ON | | | | - 7.13.00 | | | |
| Batch R160383 SampType: | | Units mg/L | THE WAY AND ELVER OF THE PERSONS AND | | e reconsti | CONTRACTOR OF THE CONTRACTOR O | | | | |
| SampID: ICB/MBLK Analyses | RL | Qual | Result Spike | SPK Ref Val | %REC | Low Limit High Limit | Date Analyzed | | | |
| Total Organic Carbon (TOC) | 1.0 | | < 1.0 | | | | 02/24/2012 | | | |
| Batch R160383 SampType: SampID: ICV/LCS | LCS | Units mg/L | | | | | Date | | | |
| Analyses | RL | Qual | Result Spike | SPK Ref Val | %REC | Low Limit High Limit | Analyzed | | | |
| Total Organic Carbon (TOC) | 5.0 | | 48.6 48.2 | 0 | 100.8 | 89.6 109.5 | 02/24/2012 | | | |



http://www.teklabinc.com/

Client: Barr Engineering Company

Work Order: 12021055

Client Project: Leadwood MTS-25/86-0013

Report Date: 02-Mar-12

| Batch R160383 SamplD: 12021055-00 | SampType: | MS | | Units mg/L | | | | | | | |
|--------------------------------------|-----------|--------------|------------|--|--------|--------|---------------|---------------|---------------|--------------|------------------|
| | JOEINIO | | D. | | | | CDV Def Ve | I WEEC | L avy Limit | Lligh I imit | Date Analyzed |
| Analyses | | | RL | Qual | - | Spike | | | | High Limit | |
| Total Organic Carbon | n (TOC) | | 1.0 | | 6.6 | 5.0 | 1.610 | 99.0 | 80 | 120 | 02/24/2012 |
| | SampType: | MSD | | Units mg/L | | | | | RPI | D Limit 15 | |
| SamplD: 12021055-00 | 5EMSD | | | | | | | | | | Date |
| Analyses | | | RL | Qual | Result | Spike | SPK Ref Val | I %REC | RPD Ref | Val %RPD | Analyzed |
| Total Organic Carbon | (TOC) | | 1.0 | | 6.7 | 5.0 | 1.610 | 101.4 | 6.560 | 1.81 | 02/24/2012 |
| EPA 600 4.1.1, 200.7 | R4.4, MET | ALS B | Y ICP (E | DISSOLVED) | 100 | | | | (注) | | 16 cm2 5 1 |
| | ampType: | | | Units µg/L | | } | | | | 180 | |
| SamplD: MB-75468 | | | | ************************************** | | | | | | | Date |
| Analyses | | | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Analyzed |
| Cadmium | | | 2.00 | | < 2.00 | 2.00 | 0 | 0 | -100 | 100 | 02/25/2012 |
| Cadmium | | | 2.00 | | < 2.00 | 2.00 | 0 | 0 | -100 | 100 | 02/25/2012 |
| Zinc | | | 10.0 | | < 10.0 | 10.0 | 0 | 0 | -100 | 100 | 02/25/2012 |
| Zinc | | | 10.0 | | < 10.0 | 10.0 | 0 | 21.0 | -100 | 100 | 02/25/2012 |
| Batch 75468 S | ampType: | LCS | | Units µg/L | | | | | | | |
| SampID: LCS-75468 | | | | | | | | | | | Date |
| Analyses | | | RL | Qual | Result | Spike | SPK Ref Val | %REC | Low Limit | High Limit | Analyzed |
| Cadmium | | | 2.00 | | 47.6 | 50.0 | 0 | 95.2 | 85 | 115 | 02/28/2012 |
| Cadmium | | | 2.00 | | 48.6 | 50.0 | 0 | 97.2 | 85 | 115 | 02/25/2012 |
| Zinc | | | 10.0 | | 468 | 500 | 0 | 93.5 | 85 | 115 | 02/25/2012 |
| Zinc | | | 10.0 | | 504 | 500 | 0 | 100.8 | 85 | 115 | 02/25/2012 |
| Batch 75468 S SampID: 12021055-00 | | MS | | Units µg/L | | | | | | A | Date |
| Analyses | | | RL | Oual | Result | Snike | SPK Ref Val | %REC | Low Limit | High Limit | Analyzed |
| Cadmium | | | 2.00 | Vuui | 40.8 | 50.0 | 0 | 81.6 | 75 | 125 | 02/25/2012 |
| Zinc | | | 10.0 | | 470 | 500 | 8.3 | 92.3 | 75 | 125 | 02/25/2012 |
| Batch 75468 SamplD: 12021055-003 | | | | | 32 V | | RPD | Date | | | |
| Analyses | | | RL | Qual | Recul+ | Snike | SPK Ref Val | %REC | RPD Ref \ | /al %RPD | Analyzed |
| Cadmium | | | 2.00 | Quai | | | 0 | 80.8 | 40.8 | 0.99 | 02/25/2012 |
| Zinc | | | 10.0 | | 471 | 500 | 8.3 | 92.5 | 469.7 | 0.21 | 02/25/2012 |
| <u> </u> | | A CONTRACTOR | Charles Sa | with the same | | | · Purel Guera | #***** | | * Early | Section Manager |
| EPA 600 4.1.4, 200.7I | | | ICP (T | | 202 | 10.00 | San Francisco | low establish | Fig. 1 3 - 77 | (a)1 | 1 day 1 |
| Batch 75482 SamplD: MB-75482 | ampType: | MBLK | | Units µg/L | | | | | | | Date |
| | | | DT | 01 | Domile | Cnilea | SPK Ref Val | %REC | I ow I imit | High Limit | Analyzed |
| Analyses | | | KL | Ouai | Result | Shike | O. 11101 Val | ,0, , | LOW LITTIE | ingii Liiii | |
| Analyses Cadmium | | | 2.00 | Qual | Result | | 0 | 0 | -100 | 100 | 02/27/2012 |



http://www.teklabinc.com/

Client: Barr Engineering Company

Work Order: 12021055

Client Project: Leadwood MTS-25/86-0013

Report Date: 02-Mar-12

| 85 85 Low Limit 75 75 | High Limit 115 115 High Limit 125 125 D Limit 20 | Date Analyzed 02/27/201: 02/27/201: Date Analyzed 02/27/201: |
|-----------------------------------|--|---|
| 85 85 Low Limit 75 75 | 115 115 High Limit 125 125 | 02/27/201 02/27/201 Date Analyzed |
| Low Limit 75 75 RPD | 115 High Limit 125 125 | 02/27/201 Date Analyzed |
| Low Limit 75 75 RPD | High Limit 125 125 | Date Analyzed |
| 75 75 RPD | 125 125 | Analyzed 02/27/2012 |
| 75 75 RPD | 125 125 | 02/27/2012 |
| 75 RPD | 125 | |
| RPD | | 02/27/2012 |
| | Limit 20 | |
| RPD Ref | | Date |
| | Val %RPD | Analyzed |
| 8.8 | 2.23 | 02/27/2012 |
| 00.2 | 2.41 | 02/27/2012 |
| KJ, | down. | |
| | | Date |
| Low Limit | High Limit | Analyzed |
| -100 | 100 | 02/28/2012 |
| | | Date |
| ow Limit | High Limit | Analyzed |
| 85 | 115 | 02/28/2012 |
| | | Date |
| ow Limit | High Limit | Analyzed |
| 70 | 130 | 02/28/2012 |
| RPD | Limit 20 | |
| | | Date Analyzed |
| | | |
| 9.2454 | 0.29 | 02/28/2012 |
| | | |
| | | Date |
| ow Limit | High Limit | Analyzed |
| 70 | 130 | 02/27/2012 |
| | Low Limit 85 Low Limit 70 RPD RPD Ref \ 9.2454 | Low Limit High Limit 85 115 Low Limit High Limit 70 130 RPD Limit 20 RPD Ref Val %RPD 9.2454 0.29 Low Limit High Limit |



http://www.teklabinc.com/

Client: Barr Engineering Company

Work Order: 12021055

RPD Limit 20

Client Project: Leadwood MTS-25/86-0013

Report Date: 02-Mar-12

| | METALS BY GFAA | | | | |
|--|----------------|--|--|--|--|
| | | | | | |
| | | | | | |

Batch 75447 SampType: MSD

Units µg/L

SampID: 12021055-001CMSD

Date Analyzed

 Analyses
 RL
 Qual
 Result Spike
 SPK Ref Val
 %REC
 RPD Ref Val
 %RPD
 Analyzed

 Lead
 4.00
 19.3
 15.0
 6.948
 82.2
 22.0166
 13.28
 02/27/2012



Receiving Check List

http://www.teklabinc.com/

| Client: Barr Engineering Company | W | ork Or | der: 1202105 | | | | | |
|--|---|---|-------------------------------|----------|------------------------|--|--|--|
| Client Project: Leadwood MTS-25/86-0013 | | | Re | port I | Date: 02-Mar-1 | | | |
| Carrier: Rick Schmidt | Rece | ived By: EA | 1 | | | | | |
| Completed by: On: 24-Feb-12 Timothy W. Mathis | Reviewed by: Elizabeth & Hurley 24-Feb-12 Elizabeth A. Hurley | | | | | | | |
| Pages to follow: Chain of custody 1 | Extra pages include | d 0 | | | | | | |
| Shipping container/cooler in good condition? Type of thermal preservation? Chain of custody present? Chain of custody signed when relinquished and received? Chain of custody agrees with sample labels? Samples in proper container/bottle? Sample containers intact? Sufficient sample volume for indicated test? All samples received within holding time? Reported field parameters measured: Container/Temp Blank temperature in compliance? When thermal preservation is required, samples are compliance? O.1°C - 6.0°C, or when samples are received on ice the samples are received. | | No Ice V No No No No No No No | Not Present Blue Ice NA | | Temp °C 1.2 Dry Ice | | | |
| Water – at least one vial per sample has zero headspace? | Yes 🗔 | No 🗆 | No VOA vials | V | | | | |
| Water - TOX containers have zero headspace? Water - pH acceptable upon receipt? | Yes ☐ Yes 🗹 | No 🗆 No 🗆 | No TOX containers | | | | | |
| | must be detailed below | w or on the C | coc. | | | | | |
| Custody seal(s) intact on shipping container/cooler. RS 2/24/12 | | | | | | | | |



Teklab Chain of Custody

5445 Horseshoe Lake Road ~ Collinsville, IL 62234 ~ Phone: (618)344-1004 ~ Fax:(618)344-1005

| Barr Engineering Co. | | | | Are the samples chilled? • Yes O No with: • Ice O Blue ice Preserved in the Lab | | | | | | | | | ab 🗴 | Field 2 24 14 | | |
|--------------------------------|-----------|------------|------------|---|--|-------------|-------------|-------------|-------------------|----------|--------------|------------------|-------------|------------------|----------|-----|
| 1001 Diamond Ridge, Suite 1100 | | | | Cooler Temp 12 Sampler Chris Schulte COMMER Pick Un | | | | | | | | | | | | |
| Jefferson City MO 65109 | | | | Commonte | Invoice to I | | | | | | | | | | | |
| Leadwood MTS - 25/86-0013 | | | | comments. | Comments Matrix is surface water. Custody Seal infact upon pick upo Metals = Cd, Pb, Zn | | | | | | | | | | | |
| Contact All | son Olds | eMail aold | ls@barr.co | om Pho | ne 573-638- | 5007 | Reque | sted D | ue Date | Standard | | Billing/I | PO Per c | ontract with | Doe R | ın |
| Lab Use | Sample ID | Sample | Date/Time | Preservative | . , Matrix | Hg | 7.5.5. | Sulfate | Settleable Solids | T.O.C. | Total Metals | Dissolved Metals | Hardness | | | |
| 7 3031055 00/ | LW-001 | 9B/23 | 12/8:05 | Unpres 5 | Aqueous | | X | X | X | X | . X | X | × | |] [| |
| 002 | LW-002 | 2/23/1 | 2 07.15 | Unpres 5 | Aqueous | | X | X | X | × | × | \boxtimes | \boxtimes | | | |
| 023 | | 2/23/12 | 10:25 | Unpres 5 | Aqueous | | \boxtimes | \boxtimes | | × | \boxtimes | \boxtimes | 図 | | | |
| 204 | LW-DS | 2/23/16 | 10:15 | Unpres 5 | Aqueous | | \boxtimes | \boxtimes | | × | \boxtimes | X | X | | | |
| 005 | Lw-us | 2/23/1 | 1 9:30 | Unpres 5 | Aqueous | \boxtimes | \boxtimes | X | | × | X | \boxtimes | X | | <u> </u> | |
| | | | | Unpres | Aqueous | | | | | | | | | | | |
| | | | | Unpres | Aqueous | | | | | | | | | | | |
| | | | | Unpres | Aqueous | | | | | | | | | | | |
| Relinguished By * | | | | Date/7 | īme | Received By | | | | | | | | Date/Time | | |
| a so | 15 /Ban | | | 2/23/12/ | 15:00 | 1 | Schmidt 1 | | | | | | | 2/24/12 | 8 | :14 |
| | | | | 2/24/12 | 47:40 | 3 | Lug | gsta. | H | 1. 7 | m | ly. | | 2/24/12 0940 | | |

^{*}The individual signing this agreement on behalf of client acknowledges that they have read and understand the terms of this agreement and that they have the authority to sign on behalf of client.